

AMENDMENTS TO THE CLAIMS

Please cancel claims 27, 29-36 and 38-42. Please amend claim 8 as follows.

1. (Previously Presented) A processing apparatus for processing a microelectronic workpiece, comprising:

an in-line metrology unit having a space for receiving a microelectronic workpiece for measuring a condition of a first layer on the microelectronic workpiece and generating a condition signal;

a control, signal-connected to the metrology unit;

a process unit providing a space to receive the microelectronic workpiece and performing an electrochemical process that is controlled by the control, wherein the process unit comprises an electroplating reactor having at least one anode and a workpiece holder to hold the microelectronic workpiece as cathode, and wherein the process is dependent on the current between the anode and the cathode, and wherein the control adjusts the current in response to the condition signal; and

a transport unit positioned to receive the microelectronic workpiece from at least one of the process unit and the in-line metrology unit and move the microelectronic workpiece to the other of the process unit and the in-line metrology unit,

wherein the condition signal from the metrology unit to the control influences said process, and is representative of a thickness of a seed layer applied onto the microelectronic workpiece.

2. (Previously Presented) The apparatus according to claim 1, further comprising a non-compliance unit, and wherein the transport unit is signal-connected to the control, further wherein the condition signal from the metrology unit influences the

control to cause the transport unit to transfer the microelectronic workpiece to the noncompliance unit.

3. (Previously Presented) The apparatus according to claim 1, wherein the first layer comprises a seed layer, and wherein the process unit includes a seed layer enhancement unit, and wherein the transport unit is signal-connected to the control, wherein the condition signal from the metrology unit influences said control to cause the transport unit to transport a microelectronic workpiece to the seed layer enhancement unit.

4. (Cancelled)

5. (Cancelled)

6. (Previously Presented) The apparatus according to claim 1, wherein the electroplating reactor comprises a plurality of anodes and the control adjusts current between each anode and the cathode.

7. (Previously Presented) The apparatus according to claim 1, wherein the process unit comprises a chemical mechanical polishing tool.

8. (Currently Amended) A processing apparatus for processing a microelectronic workpiece, comprising:

an in-line metrology unit having a space for receiving a microelectronic workpiece for measuring a condition of a first layer on the microelectronic workpiece and generating a condition signal, wherein the metrology unit is configured to measure a thickness of a seed layer and measure a thickness of a process layer deposited on the seed layer;

a control, signal-connected to the metrology unit; and

a process unit providing a space to receive the microelectronic workpiece and performing an electrochemical process that is controlled by the control, wherein the process unit comprises a chemical mechanical polishing tool, and the first layer comprises a layer on the workpiece just prior to chemical mechanical polishing by the chemical mechanical polishing tool.

9. (Previously Presented) The apparatus according to claim 1, wherein the process unit comprises a chemical mechanical polishing tool, and the first layer comprises a layer on the workpiece just after chemical mechanical polishing by the chemical mechanical polishing tool.

10. (Previously Presented) A processing apparatus for processing a microelectronic workpiece, comprising:

an in-line metrology unit having a space for receiving a microelectronic workpiece for measuring a condition of a first layer on the microelectronic workpiece and generating a condition signal, wherein the metrology unit is configured to measure a thickness of a seed layer and measure a thickness of a process layer deposited on the seed layer;

a control, signal-connected to the metrology unit;

a process unit providing a space to receive the microelectronic workpiece and performing an electrochemical process that is controlled by the control; and

a transport unit positioned to receive the microelectronic workpiece from at least one of the process unit and the in-line metrology unit and move the microelectronic workpiece to the other of the process unit and the in-line metrology unit,

wherein the condition signal from the metrology unit to the control influences the process.

11-42. (Cancelled)

43. (Previously Presented) The apparatus according to claim 8, further comprising a non-compliance unit, and wherein the transport unit is signal-connected to the control, further wherein the condition signal from the metrology unit influences the control to cause the transport unit to transfer the microelectronic workpiece to the noncompliance unit.

44. (Cancelled)

45. (Previously Presented) The apparatus according to claim 10, further comprising a non-compliance unit, and wherein the transport unit is signal-connected to the control, further wherein the condition signal from the metrology unit influences the control to cause the transport unit to transfer the microelectronic workpiece to the noncompliance unit.

46. (Previously Presented) The apparatus according to claim 10, wherein the first layer comprises a seed layer, and wherein the process unit includes a seed layer enhancement unit, and wherein the transport unit is signal-connected to the control, wherein the condition signal from the metrology unit influences the control to cause the transport unit to transport a microelectronic workpiece to the seed layer enhancement unit.

47. (Previously Presented) The apparatus according to claim 10, wherein the process unit comprises an electroplating reactor having at least one anode and a workpiece holder to hold a microelectronic workpiece as cathode, and the process is dependent on the current between the anode and the cathode, the control adjusting the current in response to the condition signal.

48. (Previously Presented) The apparatus according to claim 47, wherein the condition signal is representative of a thickness of a seed layer applied onto the microelectronic workpiece.

49. (Previously Presented) The apparatus according to claim 47, wherein the electroplating reactor comprises a plurality of anodes and the control adjusts current between each anode and the cathode.

50. (Previously Presented) The apparatus according to claim 10, wherein the process unit comprises a chemical mechanical polishing tool.

51. (Previously Presented) The apparatus according to claim 10, wherein the process unit comprises a chemical mechanical polishing tool, and the first layer comprises a layer on the workpiece just prior to chemical mechanical polishing by the chemical mechanical polishing tool.

52. (Previously Presented) The apparatus according to claim 10, wherein the process unit comprises a chemical mechanical polishing tool, and the first layer comprises a layer on the workpiece just after chemical mechanical polishing by the chemical mechanical polishing tool.